

Un Dia en la Vide de
Gurshaun



Esta es mi familia.



Esta es mi cama despues me despertar a las 6:15 am



Me desayuno con huevos fritos con salsa caliente.



Esta es la cocina de la casa.



A las 7:30 a.m. me voy en este carro a la escuela.



Figure 8 Radiolarians are amoeba-like protists that have shells.

CONNECTION TO Geology

Shell Deposits Foraminiferans have existed for more than 600 million years. During this time, shells of dead foraminiferans have been sinking to the bottom of the ocean. Millions of years ago, foraminiferan shells formed a thick layer of sediment of limestone and chalk deposits. The chalk deposits in England that are known as the White Cliffs of Dover formed in this way. Use geology books to find examples of sedimentary rocks formed from protist shells. Make a poster that explains the process by which shells become sedimentary rock.

ACTIVITY

Shelled Amoeba-Like Protists

Not all amoeba-like protists look shapeless. Some have an outer shell. Radiolarian (ray dee oh LEE ee uh) are like glass ornaments, as shown in **Figure 8**. Forams (fab xos uh NEE uh uh) have snail-like shells. They move by poking pseudopodia out of pores in the shell.

Reading Check Name two shelled, amoeba-like protists.

Zooflagellates

Zooflagellates (zoo uh FLAJ uh LAITS) are protists that flagella back and forth to move. Some zooflagellates live in water. Others live in the bodies of other organisms.

Some zooflagellates are parasites that cause disease. One parasite *Giardia lamblia* (jee AWR dee uh LAM blay) lives in the digestive tract of many vertebrates. One *G. lamblia* lives part of its life in water. People who drink water infected with *G. lamblia* can get severe stomach cramps.

Some zooflagellates live in mutualism with other organisms. In mutualism, one organism lives closely with another organism. Each organism helps the other live. The zooflagellate *Trichonympha* lives in the gut of termites. This zooflagellate digests the walls of the wood that the termites eat. Both organisms benefit from the arrangement. The protist helps the termite digest the wood. The termite gives the protist food and a place to live.

Figure 9 The Structure of Flagellates

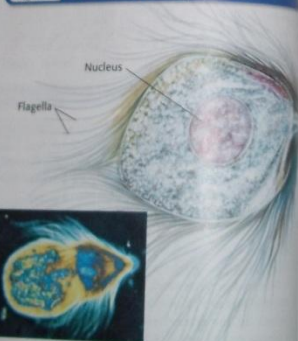
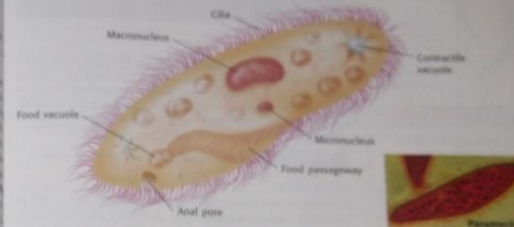


Figure 10 The Structure of a Paramecium

Members of the genus *Paramecium* eat by using cilia to sweep food into a food passageway. Food enters a food vacuole, where enzymes digest the food. Food waste is removed from the cell through the anal pore. A contractile vacuole pumps out excess water.



Ciliates

Ciliates (SIL ee its) are complex protists. They have hundreds of tiny, hairlike structures known as cilia. The cilia move a protist forward by beating back and forth. Cilia can beat up to 60 times a second! Ciliates also use their cilia for feeding. The cilia sweep food toward the protist's food passageway. The best-known genus of ciliates is *Paramecium*, shown in **Figure 10**.

The cell of a paramecium has two kinds of nuclei. A large nucleus called a *macronucleus* controls the functions of the cell. A smaller nucleus, the *micronucleus*, passes genes to another paramecium during sexual reproduction.

Heterotrophs That Can't Move

Not all protist heterotrophs have features that help them move. Some of these protists are parasites that do not move about. Others can move only at certain phases in their life cycle.

Spore-Forming Protists

Many spore-forming protists are parasites. They absorb nutrients from their hosts. They have no cilia or flagella, and they cannot move on their own. Spore-forming protists have complicated life cycles that usually include two or more hosts. For example, the spore-forming protist that causes malaria uses both mosquitoes and humans as hosts.

CONNECTION TO Social Studies

Malaria *Plasmodium* spores is a spore-forming protist that causes malaria. People get malaria in tropical areas when they are bitten by mosquitoes carrying *P. vivax*. Malaria can be treated with drugs, but many people do not have access to these drugs. Millions of people die from malaria each year. Research malaria rates in different parts of the world, and give a presentation of your findings to the class.

ACTIVITY

Esta es mi libro de ciencia de la escuela.



A las 3:30 pm yo como una merienda desques la escuela.



Yo leo un libro despues dela merienda.



A las 5:30 yo paso el rato en mi sótano.



A las 8:30 pm yo como la cena.